65-45

State of California
Highway Transportation Agency
Department of Public Works
Division of Highways
Materials and Research Department

July 1965

19605 - 762550 - 36375
07-LA-5 PM 35.4/38.5
07216 - 910002

Mr. A. D. Mayfield
Assistant District Engineer
District 07
Los Angeles, California

Dear Sir:

Submitted for your consideration is a report on:

TRAFFIC NOISE STUDY

GOLDEN STATE FREEWAY

IN VICINITY OF C. DWIGHT INSKEEP PROPERTY

Study made by . . . . . Structural Materials Section
Under general direction of . . . . . E. F. Nordlin
Unit supervisor . . . . . J. E. Barton
Tests and report by . . . . . Louis Bourget

Very truly yours,

JOHN L. BEATON
Materials and Research Engineer

LB:mw

Pursuant to a request memorandum dated June 2, 1965, from Mr. A. D. Mayfield to Mr. J. C. Womack, Attention of Mr. J. L. Beaton, a noise study has been made on the property of Mr. C. Dwight Inskeep, 8880 Morehart Avenue, Sun Valley, California. This property is adjacent to the south side of the Golden State Freeway and is directly opposite the junction of the overcrossing structures for Laurel Canyon Boulevard and Sheldon Street as shown on Figure 1. The Inskeep property is very close to the top of the cut slope for the depressed freeway and faces a corner reflector formed by the right angle junction of the overcrossing structures. The effect of this configuration is to enhance and sustain the noise from the vehicles traveling within the V shaped boundary. Most of the usual noise attenuation with distance is lost from vehicles on the far side of the freeway. Trucks traveling the most distant lanes generate almost the same peak noise levels as measured from trucks in the nearest lanes.

Measurements taken in the center of the backyard area and in the patio near a bedroom window disclosed numerous truck peak noises ranging from 68 to 76 DBA, rising from a very persistent background level of 60 to 66 DBA from other vehicles. At rarer intervals an occasional loud truck would reach a peak level of nearly 80 DBA. These figures represent a very high order of noise exposure to residential sleeping quarters.

Some of the tests were witnessed by Mr. Wallace Knutsen, Mr. John Webster, and Mr. John Kim of District 07.

The most promising solution to this problem is the construction of a ten foot high concrete or masonry wall just inside of (or as a replacement for) the existing freeway fence along this sensitive area. If adopted, this wall should extend at least far enough to include the adjacent lots on each side of the Inskeep property, and it should be advantageous to extend the wall for virtually the full length of the existing fence, within the structural V, in order to shield the State-owned properties and possibly facilitate their sale. The ends of the wall may be gradually stepped down to a terminating height of 6 feet at each extreme end, and vines may be planted that will eventually cover the wall surface to offer a pleasing appearance. Please refer to Figure 2.

The proposed wall section parallel to the freeway is noted as Section A. The proposed wall bordering the empty State-owned lot is shown as Section B. This short wall section should be checked for compliance with local community codes and, if necessary, altered to avoid any conflict. The goal should be to retain as much shielding as possible without violation of existing codes.

The effective noise reduction that may reasonably be expected from the barrier wall is about 15 decibels. In other words, extremely loud trucks that now produce from 75 to 80 DBA should be reduced to levels of no more than 60 to 65 DBA. Performance of this order should considerably reduce the problem of human adaptation to the environment.

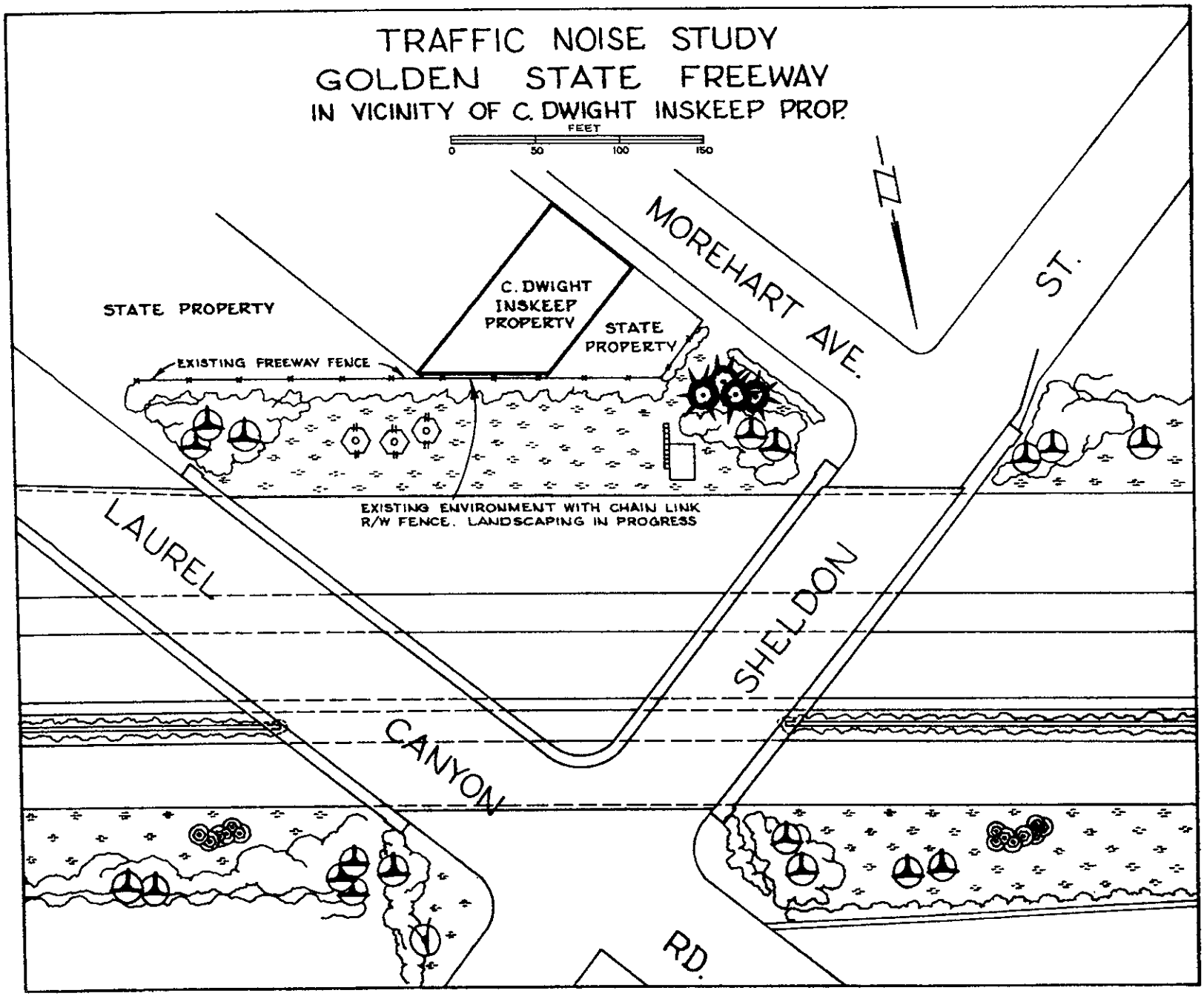


FIGURE 1

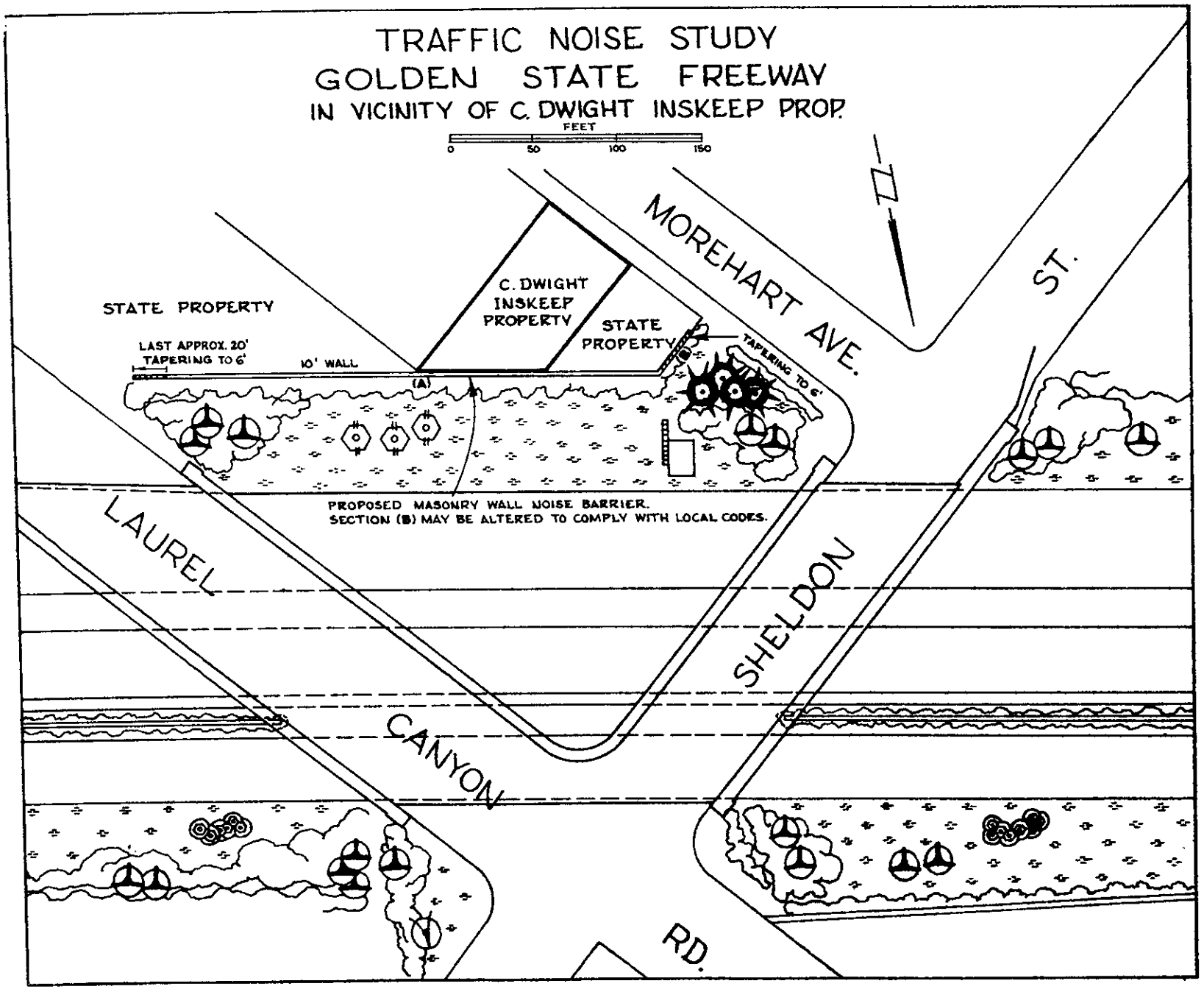
TRAFFIC NOISE STUDY
GOLDEN STATE FREEWAY
IN VICINITY OF C. DWIGHT INSKEEP PROP.
FEET
0
50
100
150
N
MOREHART AVE.
ST.
C. DWIGHT INSKEEP PROPERTY
STATE PROPERTY
STATE PROPERTY
LAST APPROX. 20' TAPERING TO 6'
10' WALL
(A)
TAPERING TO 6'
PROPOSED MASONRY WALL NOISE BARRIER.
SECTION (B) MAY BE ALTERED TO COMPLY WITH LOCAL CODES.
LAUREL
CANYON
SHELDON
RD.

FIGURE 2